The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte HIDEFUMI FUJIMOTO, KAZUO TAKAHASHI, KOJI TAKEDA, KEISUKE TANAKA, ETSUO OGINO, KENJI MORI, and MASAHIRO HIRATA

Appeal No. 2006-0588
Application No. 09/857,382

HEARD: MARCH 23, 2006

Before WARREN, WALTZ, and FRANKLIN, Administrative Patent Judges.

FRANKLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1, 3-10, and 12-20.

A copy of claims 1, 7, and 8 are set forth below:

1. A hydrophilic member comprising:

a tin oxide layer having a rutile structure formed on a surface of a substrate; and

an overcoat layer formed on the surface of said tin oxide layer, wherein said overcoat layer has a surface polarity opposite to that of tin oxide, is selected from at least one of silicon oxide, aluminum oxide, zirconium oxide, ceric oxide, and titanium oxide, and the mean surface roughness (R_a) of the top surface thereof is within a range of 0.5 to 25 nm.

7. A hydrophilic member according to claim 12, wherein the refractive index of said undercoat film acting as a barrier against alkali is between the refractive index of the substrate and the refractive index of the tin oxide layer.

8. A hydrophilic member according to claim 12, wherein said undercoat film is a layered body of tin oxide and silicon oxide.

Claims 1, 3-7, 9-10 and 12-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tada in view of Komatsu.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being obvious over Tada in view of Komatsu, and further in view of Ando.

The examiner relies upon the following references as evidence of unpatentability:

Ando et al. (Ando)	5,605,609	Feb. 25, 1997
Komatsu	5,854,708	Dec. 29, 1998
Greenberg et al.[1] (Greenberg)	6,027,766	Feb. 22, 2000
Tada et al. (Tada)	6,379,776 B1	Apr. 30, 2002

We consider claims 1, 7, and 8 in this appeal. See 37 CFR § 41.37(c)(1)(vii)(September 2004); formerly 37 CFR § 1.192(c)(7)(2003). Also see Ex parte Schier, 21 USPQ2d 1016, 1018 (Bd. Pat. App. & Int. 1991).

We have carefully considered appellant's brief and reply brief, the examiner's answer, and the evidence of record. This review has led us to the following determinations.

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1 We do not comment on Greenberg in the decision. Reliance on a reference to support a ground of rejection that is not included in the statement of the rejection is clearly impermissable. See In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970); cf. Ex parte Raske, 28 USPQ2d 1304, 1304-05 (Bd. Pat. App. & Int. 1993).

OPINION

I. The 35 U.S.C. § 103 rejection of claims 1, 3-7, 9-10 and 12-20 as being unpatentable over Tada in view of Komatsu

We refer to the examiner's position for this rejection made on pages 3-5 of the answer.

Beginning on page 9 of the brief, appellants argue that their claimed subject matter is fundamentally different from both Tada and Kamatsu. Appellants argue that their claimed subject matter "achieves a significant advantage which is not achieved or suggested by the applied references, i.e., superior hydrophilic restoration properties (resistance to washing with soap), which results in improved, long term anti-fogging properties."

Appellants argue that according to claim 1, an overcoat layer is formed on the surface of a tin oxide layer, the overcoat layer is made from a material having an opposite polarity with respect to tin oxide (from the aspect of surface polarity), and the tin oxide layer has a rutile structure, which has preferable surface irregularities and which transfer through to the overcoat layer, giving it a favorable surface roughness. Appellants argue that such a combination of tin oxide layer having a rutile structure and an overcoat layer, with opposite surface polarity and favorable surface roughness, improves the hydrophilic restoration properties of the tin oxide layer, and it becomes possible to obtain long-term stability of the hydrophilic properties. Brief, page 9.

Appellants emphasize that the rutile structure of the tin oxide makes it possible to easily form a polycrystalline film having a surface of preferable irregularities, quite unlike the TiO_2 layer of Tada, in which appropriate denting and projecting is achieved only via special processing as discussed at his column 9, lines 7-67, or

by being transferred through from the alkali shut-off layer (to any extent that the shut-off layer is present).[2] Brief, pages 10-11.

Appellants also argue that SnO_2 shows little photocatalytic properties in comparison with TiO_2, and that rutile titanium dioxide is recognized as having inferior photocatalytic properties in comparison to anatase titanium dioxide. Brief, page 11.

Beginning on page 6 of the answer, the examiner points out that Tada discloses that the silicon oxide layer (the overcoat layer) improves hydrophilic restoration and long-term anti-fogging properties. The examiner finds that Tada teaches that since the silicon oxide layer is nonpolar or has low polarity, the anti-fogging sustainability and hydrophilicity sustainability is improved, and refers to the paragraph of Tada bridging columns 10 and 11. Answer, page 6. Hence, we agree with the examiner that appellants are incorrect in asserting that their claimed subject matter is fundamentally different. Furthermore, appellants' assertion that their claimed subject matter "achieves a significant advantage" is unpersuasive because mere attorney argument is not the kind of factual evidence that can rebut a *prima facie* case of obviousness. See In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978); In re Lindner, 457 F.2d 506, 508, 173 USPQ 356, 368 (CCPA 1972)("mere lawyers' arguments unsupported by factual evidence are insufficient to establish unexpected results").

With regard to the rutile form of the SnO_2, as recognized by appellants at the bottom of page 10 of the brief, Tada teaches the idea of transferring surface roughness from an underlayer to an overlaying layer. See column 5, lines 44-48 of Tada. We recognize that the layer in Tada is not specifically a SnO_2 layer, however,

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2 Appellants also discuss the rutile structure on pages 3-5 of the reply brief, which we have fully considered.

the concept of using a layer that is located beneath an overlaying layer, to impart a desired surface roughness to an overlaying layer is taught by Tada. Hence, one skilled in the art would have found it obvious to have utilized this technique to impart a desired surface roughness to an overcoat layer. We note that Tada teaches that the overcoat layer has a surface roughness similar to the underlaying photocatylyst layer. See column 13, lines 11-31 of Tada.

Given the aforementioned suggestions of Tada, one skilled in the art would have had a reasonable expectation of success of transferring the surface roughness of an underlaying photocatalyst layer to an overcoat layer. Komotasu shows that TiO_2 is known to have a rutile or anatase type crystal structure. See column 5, lines 41-53 of Komatsu. The definition of rutile (also referred to in the art as cassiterite), found at http://www.uwgb.edu/dutchs/PETROLGY/Rutile%20Structure.HTM, a copy of which is provided herewith, shows that SnO_2 is known to have a rutile crystal structure. As such, it would have been obvious to have selected a SnO_2 layer having such a structure to impart a desired surface roughness to an overcoat layer. We note that "the consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art." In re Dow Chem. Co., 837 F.2d 469, 472-73, 5 USPQ2d 1529, 1531 (Fed. Cir. 1988) (citing Burlington Indus. v. Quigg, 822 F.2d 1581, 1583, 3 USPQ2d 1436, 1438 (Fed. Cir. 1987); In re Hedges, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1987)); Orthopedic Equip. Co. v. United States, 702 F.2d 1005, 1013, 217 USPQ 193, 200 Fed. Cir. 1983); In re Rinehart, 531 F.2d 1048, 1053-54, 189 USPQ 143, 148

(CCPA 1976). It is thus the position of the Court that, where claimed subject matter has been rejected as obvious in view of a combination of prior art references, a proper analysis under § 103 requires, inter alia, consideration of two factors: (1) whether the prior art would have suggested to those of ordinary skill in the art that they should make the claimed composition or device, or carry out the claimed process; and (2) whether the prior art would also have revealed that in so making or carrying out, those of ordinary skill would have a reasonable expectation of success. Both the suggestion and the reasonable expectation of success must be founded in the prior art, not in the applicant's disclosure. Dow Chem., supra. In the instant case, both the suggestion and the reasonable expectation of success is founded in the prior art. We also note that the Court in In re Kotzab stated that a suggestion, teaching, or motivation to combine the relevant prior art teachings does not have to be found explicitly in the prior art, as "the teaching, motivation, or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. . . . The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ 1313, 1317 (Fed. Cir. 2000).

Beginning on page 2 of the reply brief, appellants argue that the examiner is incorrect that TiO_2 and SnO_2 are equivalent photocatalysts. Appellants argue that Komatsu prefers TiO_2 as the selected photocatalyst. Reply brief, page 3. Appellants also discussed this issue, as mentioned supra, on page 11 of the brief. We are not convinced by this argument for the following reasons.

As pointed out by the examiner on pages 3-4 of the answer, Komatusu teaches that TiO_2 or SnO_2 can be used as the photocatalyst layer. A preference for TiO_2 does not moot the teaching of the use of SnO_2 as a photocatalyst layer. We note that a preferred embodiment is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered. In re Lamberti, 545 F.2d 747, 750, 192 USPQ 278, 280 (CCPA 1976); In re Mills, 470 F.2d 649, 651, 176 USPQ 196, 198 (CCPA 1972). In the instant case, it is clear that Komatsu teaches that either TiO_2 or SnO_2 can be used.

Beginning on page 6 of the reply brief, appellants argue that the advantageous hydrophilic properties of their claimed subject matter are achieved by the surface polarity and surface irregularities, not by the photocatalytic properties of SnO_2. On page 7 of the reply brief, appellants argue that Tada does not achieve these properties because Tada does not use SnO_2 as a photocatalyst, and discloses that the surface irregularities of his photocatalytic film are achieved either by transfer of the surface irregularities of the alkali shut-off film through to the photocatalytic layer or by directly forming irregularities on the photocatalytic film surface, contrary to the claimed invention; or by Komatsu who indicates that it is the porous nature of Komatsu's SiO2 covering layer that imparts the desired hydrophilicity to his anti-fog element, not surface irregularities transferred through from the photocatalytic layer, contrary to the present invention and to Tada. We are not persuaded by this argument. We note that one cannot show nonobviousness by attacking the references individually where the rejection is based on the combined teachings of the references. See, In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881

(CCPA 1981). These arguments presented by appellants do not address the combined teachings of the applied art, and therefore are unconvincing.

On page 16 of the brief, appellants argue the subject matter of claim 7 regarding the refractive indexes of the undercoat film, the substrate, and the tin oxide layer. We simply refer to the examiner's response made on pages 7-8 of the answer and incorporate the position therein as our own.

In view of the above, we therefore affirm the 35 U.S.C. §103 rejection of claims 1, 3-7, 9-10 and 12-20 as being unpatentable over Tada in view of Komatsu.

II. The 35 U.S.C. 103(a) rejection of claim 8 as being obvious over Tada view of Komatsu, and further in view of Ando

Beginning on page 7 of the reply brief, appellants argue that the specification at page 6, lines 2-7 plainly indicates that the discussion of a "layered body" pertains to a structure involving multiple, different films, layered one on top of the other. Reply brief, pages 7-8. We agree. We also further note that the examiner's reasoning on page 8 of the answer improperly relies upon appellants' own disclosure for teaching a "layered body". Stated in different terms, the examiner, in making his Section 103 rejection, has fallen victim to the insidious effect of hindsight syndrome wherein that which only the inventor has taught is used against its teacher. W.L. Gore & Assocs. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

In view of the above, we reverse the rejection of claim 8 under 35 U.S.C. § 103(a) as being obvious over Tada in view of Komatsu, and further in view of Ando.

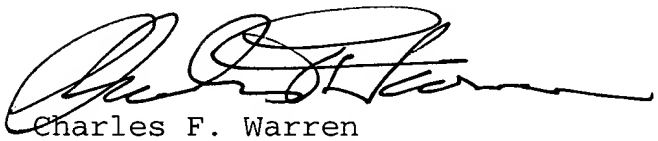
III. Conclusion

The rejection of claims 1, 3-7, 9-10 and 12-20 under 35 U.S.C. § 103(a) as being unpatentable over Tada in view of Komatsu is affirmed.

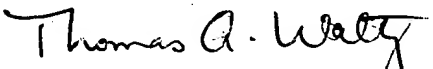
The rejection of claim 8 under 35 U.S.C. § 103(a) as being obvious over Tada in view of Komatsu, and further in view of Ando is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv)(effective Sept. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sept. 7, 2004)).

AFFIRMED-IN-PART



Charles F. Warren
Administrative Patent Judge



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Appeal No. 2005-1564
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